

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Christopher Bullard, #57,644, on 7/16/10.

2. The application has been amended as follows:

#### **IN THE CLAIMS:**

3. **Claims 57, 58, 67, 68, and 77 are cancelled.**
4. **Claims 30, 44, 45, 48-52, 59-66, 69-76, 78, and 79 are amended** as follows:

Claim 30 (Currently Amended): A ~~method to improve fatigue resistance of a threaded tubular connection subjected to stress variations, the method~~ comprising:

~~providing~~ a male tubular element including a tapered male threading, and  
~~providing~~ a female tubular element including a tapered female threading that cooperates with the male threading by makeup to produce a rigid mutual connection of the male and female tubular elements with radial interference between radial load transfer zones of the male and female threadings,

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wherein the male and female threadings each have a load flank extending substantially perpendicularly to an axis of the male and female threadings, and wherein the radial load transfer zones are at a radial distance from envelopes of thread roots of the male and female threadings and form an angle of less than  $40^\circ$  with the axis of the male and female threadings,

wherein the radial load transfer zones are ramps constituting stabbing flanks of the male and female threadings over a major portion of a radial height thereof,

wherein a profile of the male threading includes a first concave rounded portion defining the thread root and tangential to the ramp, and

wherein the profile of the male threading includes a second concave rounded portion with a smaller radius of curvature than the first rounded portion and tangential thereto and to the load flank.

Claim 44 (Currently Amended): A threaded tubular connection ~~method~~ according to claim 30, wherein an angle between the ramps and the axis of the threadings is in a range of  $20^\circ$  to  $40^\circ$ .

Claim 45 (Currently Amended): A threaded tubular connection ~~method~~ according to claim 30, wherein an angle between the ramps and the axis of the threadings is about  $27^\circ$ .

Claim 48 (Currently Amended): A threaded tubular connection ~~method~~ according to claim 30, wherein a groove defining the female thread root extends axially from a first wall constituted by the load flank to a second wall connected to the ramp of the female threading.

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Claim 49 (Currently Amended): A threaded tubular connection ~~method~~ according to claim 48, wherein a profile of the groove includes a central concave rounded portion framed by first and second rounded concave portions respectively tangential to the first and second walls and with a smaller radius of curvature than the central rounded portion.

Claim 50 (Currently Amended): A threaded tubular connection ~~method~~ according to claim 48, wherein a profile of the female threading includes a convex rounded portion tangential to a second rounded portion and to the ramp, a zone of inflexion between the convex rounded portion and the second rounded portion constituting the second wall.

Claim 51 (Currently Amended): A threaded tubular connection ~~method~~ according to claim 30, wherein the radial load transfer zones are provided in a zone of full height threads or of threads termed perfect threads.

Claim 52 (Currently Amended): A threaded tubular connection ~~method~~ according to claim 51, wherein the radial load transfer zones are also provided in a zone of imperfect threads, or in a zone of run-out threads.

Claim 59 (Previously Presented): A threaded tubular connection ~~method~~ according to claim 30, wherein the load flanks of the male and female threadings are in contact on at least two consecutive threads.

Claim 60 (Previously Presented): A pipe string component that connects an offshore platform with a sea bed that includes a threaded tubular connection ~~for implementing the method according to claim 30, comprising:~~

~~a male tubular element including a tapered male threading, and a female tubular element including a tapered female threading that cooperates with the male threading by makeup to produce a rigid mutual connection of the tubular elements with radial interference between radial load transfer zones of the threadings,~~

~~wherein the radial load transfer zones are ramps constituting the stabbing flanks of the male and female threadings over a major portion of a radial height thereof.~~

Claim 61 (Currently Amended): A ~~method to improve fatigue resistance of a threaded tubular connection subjected to stress variations, the method~~ comprising:

~~providing~~ a male tubular element including a tapered male threading, and

~~providing~~ a female tubular element including a tapered female threading that cooperates with the male threading by makeup to produce a rigid mutual connection of the male and female tubular elements with radial interference between radial load transfer zones of the male and female threadings,

wherein the male and female threadings each have a load flank extending substantially perpendicularly to an axis of the male and female threadings, and wherein the radial load transfer zones are at a radial distance from envelopes of thread roots of the male and female threadings and form an angle of less than 40° with the axis of the male and female threadings,

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wherein the radial load transfer zones are ramps constituting stabbing flanks of the male and female threadings over a major portion of a radial height thereof,

wherein a groove defining the female thread root extends axially from a first wall constituted by the load flank to a second wall connected to the ramp of the female threading, and

wherein a profile of the groove includes a central concave rounded portion framed by first and second rounded concave portions respectively tangential to the first and second walls and with a smaller radius of curvature than the central rounded portion.

Claim 62 (Currently Amended): A threaded tubular connection method according to claim 61, wherein an angle between the ramps and the axis of the threadings is in a range of 20° to 40°.

Claim 63 (Currently Amended): A threaded tubular connection method according to claim 61, wherein an angle between the ramps and the axis of the threadings is about 27°.

Claim 64 (Currently Amended): A threaded tubular connection method according to claim 61, wherein a profile of the female threading includes a convex rounded portion tangential to a second rounded portion and to the ramp, a zone of inflexion between the convex rounded portion and the second rounded portion constituting the second wall.

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Claim 65 (Currently Amended): A threaded tubular connection ~~method~~ according to claim 61, wherein the radial load transfer zones are provided in a zone of full height threads or of threads termed perfect threads.

Claim 66 (Currently Amended): A threaded tubular connection ~~method~~ according to claim 65, wherein the radial load transfer zones are also provided in a zone of imperfect threads, or in a zone of run-out threads.

Claim 69 (Currently Amended): A threaded tubular connection ~~method~~ according to claim 61, wherein the load flanks of the male and female threadings are in contact on at least two consecutive threads.

Claim 70 (Currently Amended): A pipe string component that connects an offshore platform with a sea bed that includes a threaded tubular connection ~~for implementing the method~~ according to claim 61-31, ~~comprising:~~

~~a male tubular element including a tapered male threading, and a female tubular element including a tapered female threading that cooperates with the male threading by makeup to produce a rigid mutual connection of the tubular elements with radial interference between radial load transfer zones of the threadings,~~

~~wherein the radial load transfer zones are ramps constituting the stabbing flanks of the male and female threadings over a major portion of a radial height thereof.~~

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Claim 71 (Currently Amended): A ~~method to improve fatigue resistance of a threaded tubular connection subjected to stress variations, the method~~ comprising:

~~providing~~ a male tubular element including a tapered male threading, and

~~providing~~ a female tubular element including a tapered female threading that cooperates with the male threading by makeup to produce a rigid mutual connection of the male and female tubular elements with radial interference between radial load transfer zones of the male and female threadings,

wherein the male and female threadings each have a load flank extending substantially perpendicularly to an axis of the male and female threadings, and wherein the radial load transfer zones are at a radial distance from envelopes of thread roots of the male and female threadings and form an angle of less than  $40^\circ$  with the axis of the male and female threadings,

wherein the radial load transfer zones are ramps constituting stabbing flanks of the male and female threadings over a major portion of a radial height thereof,

wherein a groove defining the female thread root extends axially from a first wall constituted by the load flank to a second wall connected to the ramp of the female threading, and

wherein a profile of the female threading includes a convex rounded portion tangential to a second rounded portion and to the ramp, a zone of inflexion between the convex rounded portion and the second rounded portion constituting the second wall.

Claim 72 (Currently Amended): A threaded tubular connection ~~method~~ according to claim 71, wherein an angle between the ramps and the axis of the threadings is in a range of  $20^\circ$  to  $40^\circ$ .

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Claim 73 (Currently Amended): A threaded tubular connection method according to claim 71, wherein an angle between the ramps and the axis of the threadings is about 27°.

Claim 74 (Currently Amended): A threaded tubular connection method according to claim 71, wherein a profile of the groove includes a central concave rounded portion framed by first and second rounded concave portions respectively tangential to the first and second walls and with a smaller radius of curvature than the central rounded portion.

Claim 75 (Currently Amended): A threaded tubular connection method according to claim 71, wherein the radial load transfer zones are provided in a zone of full height threads or of threads termed perfect threads.

Claim 76 (Currently Amended): A threaded tubular connection method according to claim 75, wherein the radial load transfer zones are also provided in a zone of imperfect threads, or in a zone of run-out threads.

Claim 78 (Currently Amended): A threaded tubular connection method according to claim 71, wherein the load flanks of the male and female threadings are in contact on at least two consecutive threads.



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Claim 79 (Currently Amended): A pipe string component that connects an offshore platform with a sea bed that includes a threaded tubular connection ~~for implementing the method according to claim 71, comprising:~~

~~a male tubular element including a tapered male threading, and a female tubular element including a tapered female threading that cooperates with the male threading by makeup to produce a rigid mutual connection of the tubular elements with radial interference between radial load transfer zones of the threadings,~~

~~wherein the radial load transfer zones are ramps constituting the stabbing flanks of the male and female threadings over a major portion of a radial height thereof.~~

### ***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fannie Kee whose telephone number is (571) 272-1820. The examiner can normally be reached on 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571) 272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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